In the following text, two examples will be used to illustrate how program code can be converted into an intermediate format table, with reference made to the drawings.---.

Page 25, top, change the heading "Patent claims" to --I Claim:---.

In the Claims:

Cancel claims 1 to 34 and enter the following new claims.

--35. A method for converting interface definitions within a source code program into an intermediate format, which comprises:

identifying with a computer system at least one object in a source code program;

identifying at least one interface in at least one identified object;

determining characteristics of the at least one interface including at least one of:

being an internal interface for producing a link from objects within the source code program;

being an external interface for producing a link from an object with interfaces located outside the source code program;

being an input interface;

being an output interface; and

being an input/output interface;

identifying at least one link including:

at least one internal link between at least one output interface and at least one input interface between at least two identified objects; and

at least one external link of an external interface;

creating an at least two dimensional intermediate format table having first rows (4, 11, 14, 17, 21, 25, 34) disposed in a first dimension, second rows disposed in a second dimension, and cells disposed at intersections of the first and second rows;

assigning designations for each identified object to rows in the first dimension;

assigning designations for each identified link to rows in the second dimension; and

inserting at least one of:

designations for at least one output interface and input interface associated with both a respective identified object and an identified internal link in each of the cells located at the intersection of one of the rows in the first dimension with the designation of an identified object and one of the rows in the second dimension with the designation of an identified internal link; and

designations for at least one output interface and input interface associated with both a respective identified object and an identified external link in each of the cells located at the intersection of one of the rows in the first dimension with the designation of an identified object and one of the rows in the second dimension with the designation of an identified external link.

36. The method according to claim 35, which further comprises:

indicating a mode of the external interface of at least one identified external link using a first specific row in the first dimension; and

inserting details of the mode of the external interface for the at least one identified external link in each of the cells located at an intersection of the first specific row in the first dimension and the rows in the second dimension with the designations of the at least one identified external link.

37. The method according to claim 36, wherein the external interface is one of:

an input interface;

an output interface;

a bidirectional interface; and

an interface with an undefined flow direction.

38. The method according to claim 36, which further comprises:

defining at least one data type of the at least one identified interface;

assigning details of the at least one data type of the at least one identified interface to at least one second specific row in the first dimension; and

inserting designations for the at least one data type associated with the at least one identified link in each of the cells located at an intersection of the second specific row and the rows in the second dimension having the designations of the at least one identified link.

39. The method according to claim 38, which further comprises:

identifying at least one constant, including:

a constant in the at least one identified object; and

an external constant to be used by all objects in the source code program;

defining a data type of the at least one identified constant;

assigning details of the data type of the at least one identified constant to at least one third specific row in the first dimension;

assigning designations of the at least one identified constant to at least one first specific row in the second dimension; and

inserting designations for the data type associated with the at least one identified constant in each of the cells located at an intersection of the at least one third specific row and the at least one first specific row in the second dimension with designations of the at least one identified constant.

40. The method according to claim 39, which further comprises:

defining one of a value and a method of calculation for the at least one identified constant;

assigning details of the one of the value and the method of calculation of the at least one identified constant to at least one fourth specific row in the first dimension 15; and

inserting the one of the value and the method of calculation of the at least one identified constant in each of the cells located at an intersection of the at least one fourth specific row and the first specific rows in the second dimension with designations of the at least one identified constant.

41. The method according to claim 40, which further comprises:

defining one of a value and a method of calculation for the at least one identified link;

assigning details of the one of the value and the method of calculation of the at least one identified link to at least one fifth specific row in the first dimension; and

inserting the one of the value and the method of calculation of the at least one identified link in each of the cells located at an intersection of the at least one fifth specific row and at least one of:

the rows in the second dimension with the designation of an identified internal link; and

the rows in the second dimension with the designation of an identified external link.

42. The method according to claim 35, which further comprises:

identifying original designations in the source code program of at least one of:

the at least one object;

the at least one link; and

the at least one constant,

assigning details of the identified original designations to specific title rows; and

inserting the original designations into cells in the title rows.

43. The method according to claim 35, which further comprises compiling the designations of the at least one interface from an identifier for a respective interface and at least one detail selected from the group consisting of:

an identification of a mode of the at least one interface;

a data type of the at least one interface;

a default value; and

details of a data type conversion function to be applied to the at least one interface.

44. The method according to claim 35, which further comprises:

identifying original designations in the source code program of the at least one interface; and

using the original designations as an identifier.

45 The method according to claims 35, wherein the source code program is a code in a hardware description language.

46. The method according to claim 45, wherein the at least one object represents an interface entity of an electronic component.

47. The method according to claim 45, wherein the at least one internal link represents a signal.

48. The method according to claim 45, wherein the at least one external link represents a port.

49. The method according to claim 35, wherein at least one identified object has a sub source code program able to be converted into an intermediate format; and which further comprises converting the sub source code program to a sub format table and then inserting a cross-reference to the sub format table in a cell in a row in the first dimension associated with the converted object.

50. The method according to claim 35, which further comprises inserting a cross-reference to at least one identified object stored as a separate unit as source code program in a cell in the row in the first dimension associated with the stored object.

51. A method for converting interface definitions from an at least two dimensional intermediate format table into an object code program with a computer system, which comprises:

providing an at least two dimensional intermediate format table having first rows (4, 11, 14, 17, 21, 25, 34) disposed in a first dimension, second rows disposed in a second dimension, and cells at intersections of the first and second rows;

assigning designations for at least one object in rows in the first dimension;

assigning designations for at least one internal link between at least one of:

objects; and

at least one external link of an object, in rows in the second dimension;

inserting at least one of:

designations for at least one of an internal output interface and an internal input interface associated with both a respective object and a link in each cell located at an intersection of one of the rows in the first dimension with the designation of an object and one of the rows in the second dimension with the designation of an internal link; and

designations for at least one of an external output interface and an external input interface associated with both a respective object and an external link in each cell located at the intersection of one of the rows in the first dimension with the designation of an object and one of the rows in the second dimension with the designation of an external link;

creating at least one program code object based on information about the at least one object contained in the intermediate format table;

assigning at least one of associated internal output interfaces and associated internal input interfaces to a respective program code object;

at least one of:

creating at least one link between program code objects based on information about the internal links of the internal input interfaces and internal output interfaces contained in the intermediate format table; and

assigning at least one of associated external output interfaces and associated external input interfaces to corresponding program code objects.

52. The method according to claim 51, which further comprises:

assigning details of data types of at least one interface to at least one second specific row in the first dimension in the intermediate format table;

inserting designations for the data types associated with the at least one link in each cell located at an intersection of the second specific row and the rows in the second dimension with the designations of at least one link;

defining the data types of the at least one interface assigned to the at least one program code object and associated with the at least one link.

53. The method according to claim 52, which further comprises:

assigning details of data types of at least one constant in at least one of

an object; and

an external constant, to at least one third specific row in the first dimension 10 in the intermediate format table, the details to be used by all the objects;

assigning designations of at least one of:

constant; and

external constant, to at least one first specific row in the second dimension;

inserting designations for the data type associated with the at least one constant in each cell located at an intersection of the at least one third specific row and the at least one first specific row in the second dimension with designations of the at least one constant; and

defining at least one of:

an internal constant; and

an external constant, in at least one of:

one program code object; and

a general part of the object program code.

54. The method according to claim 53, which further comprises:

assigning details of one of a value and a method of calculation of at least one of:

the internal constant; and

the external constant, to at least one fourth specific row in the first dimension in the intermediate format table;

inserting the one of the value and the method of calculation of the at least one constant in each cell located at an intersection of the fourth specific row and the first specific rows in the second dimension with designations of the at least one constant;

assigning the one of the value and the method of calculation of the at least one constant to the at least one constant defined in the program code.

55. The method according to claim 54, which further comprises:

assigning details of the one of the value and the method of calculation of the at least one link to at least one fifth specific row in the first dimension in the intermediate format table;

inserting the one of the value and the method of calculation of the at least one link in each cell located at an intersection of the at least one fifth specific row and at least one of:

one of the rows in the second dimension with the designation of an internal link; and

the rows in the second dimension with the designation of an external link; and

assigning the one of the value and the method of calculation of the at least one link to the link created in the object program code.

56. The method according to claim 51, which further comprises:

assigning details of the designations of at least one of:

the at least one object;

the at least one link; and

the at least one constant, to specific title rows in the intermediate format table;

inserting the designations in cells in the title rows; and

naming the at least one program code object of at least one of:

the at least one link; and

the at least one constant, based on the designations in the cells in the title rows in the intermediate format table.

57. The method according to claim 51, which further comprises:

inserting a cross-reference to a sub format table in at least in one cell in a row in the first dimension associated with an object; and

linking the program code object produced from the object to subprogram code produced from the sub format table.

58. The method according to claim 51, which further comprises:

inserting a cross reference to a source code program stored as a separate unit at least in one cell in the row in the first dimension associated with an object; and

linking the program code object produced from the at least one object to the source code program stored as a separate unit.

59. An intermediate format table for storing interface information contained in program code in a computer system, the program code defining objects, at least one link including at least one internal link between objects and at least one external link, at least one interface including at least one output interface and at least one input interface, the table comprising:

dimensions including at least a first dimension and a second dimension;

first rows disposed in said first dimension;

second rows disposed in said second dimension;

some of said second rows crossing said first rows to form intersections;

cells disposed at said intersections;

said first rows assigned designations for at least one object in a program code;

said second rows assigned at least one of:

designations for at least one internal link between objects; and

designations for at least one external link of the program code; and

each of said cells located at an intersection of one of said first rows having a designation of an object for at least one of:

an output interface; and

an input interface, associated with both a respective object and a respective internal link;

each of said cells located at an intersection of one of said second rows having a designation of an internal link for at least one of:

an output interface; and

an input interface, associated with both a respective object and a respective internal link;

each of said cells located at an intersection of one of said first rows having a designation of an object for at least one of:

an output interface; and

an input interface, associated with both a respective object and a respective external link; and

each of said cells located at an intersection of one of said second rows having a designation of an external link for at least one of:

an output interface; and

an input interface, associated with both a respective object and a respective external link.

60. The table according to claim 59, wherein:

the at least one external link has an external interface with modes, the modes each having details;

said first rows include a first specific row indicating one of the modes of the external interface; and

the details of the one mode are inserted in each of said cells disposed at an intersection of said first specific row and said second rows with the designations of the at least one external link.

61. The table according to claim 60, wherein:

the at least one interface has data types with details;

said first rows include at least one second specific row assigned the details of the data types of the at least one interface,

the at least one internal link and the at least one external link have data types; and

each of said cells located at an intersection of said second specific row and said second rows with the designations of at least one of the at least one internal link and the at least one external link has a respective designation for the data types associated with the at least one link.

62. The table according to claim 61, wherein:

the program code includes at least one constant including:

an internal constant having a designation and data types with details; and

an external constant having a designation and data types with details

said first rows include at least one third specific row assigned the details of the data types of the at least one constant;

said second rows have first specific rows assigned the designation of the at least one constant; and

each of said cells located at an intersection of said third specific row and said first specific rows contain designations for data types associated with the at least one constant.

63. The table according to claim 62, wherein:

the at least one constant has one of:

a value with details; and

a method of calculation with details;

said first rows include at least one fourth specific row assigned details of the one of the value and the method of calculation; and

each of said cells located at an intersection of said at least one fourth specific row and said first specific rows with designations of the at least one constant contains the one of the value and the method of calculation.

64. The table according to claim 63, wherein:

the at least one link has one of:

a value with details; and

a method of calculation with details;

said first rows include at least one fifth specific row assigned details of the one of the value and the method of calculation; and

each of said cells located at an intersection of said at least one fifth specific row and at least one of:

said second rows with the designation of an internal link; and

said second rows with the designation of an external link, contains the one of the value and the method of calculation of the at least one link

65. The table according to claim 58, wherein:

the at least one object has an original designation with details;

the at least one link has an original designation with details;

the program code includes at least one constant having an original designation with details;

specific title rows have title row cells;

said specific title rows are assigned details of the original designations of the at least one object, the at least one link, and the at least one constant; and

said title row cells have the original designations of the at least one object, the at least one link, and the at least one constant.

66. The table according to claim 58, wherein:

the at least one interface has

a mode;

a data type;

a default value;

details of a data type conversion function to be applied to the at least one interface; and

designations including:

an identifier for a respective interface; and

at least one detail selected from the group consisting of:

an identification of the mode of the at least one interface;

an identification of the data type of the at least one interface;

an identification of the default value; and

an identification of the details of the data type conversion function to be applied to the at least one interface.

67. The table according to claim 58, wherein said cells selectively contain annotations to control programs for analyzing at least one of:

information contained in the intermediate format table; and

information for a user.

68. The table according to claim 67, wherein:

said dimensions include at least one further dimension allocated to said annotations;

said further dimension has further rows assigned with specific types of annotations; and

an annotation to be used is used at intersections of said further rows in said first and second dimensions governing said annotation with a respective one of said further rows assigned to a type of annotation to be used.--.